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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,531	11/02/2001	Timothy Beatty	6944-PA01	9191
27111	7590	12/09/2004	EXAMINER	
GORDON & REES LLP 101 WEST BROADWAY SUITE 1600 SAN DIEGO, CA 92101			ELMORE, REBA I	
			ART UNIT	PAPER NUMBER
			2187	

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/005,531

**Applicant(s)**

BEATTY ET AL.

**Examiner**

Reba I. Elmore

**Art Unit**

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2001.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-47 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/2/01.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

1. Claims 1-47 are presented for examination.

### *Specification*

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-47 are rejected under 35 U.S.C. 102(b) as being anticipated by Bachmat.
5. Bachmat teaches the invention (claim 1) as claimed including a system for dynamic file allocation, comprising:

an input device for receiving a data object with the data object being either a byte, file or directory as either the host, element 11, controller, element 13 or system configuration manager, element 23 (e.g., see Figure 1);

a reference container, which is a storage for reference objects which define a location or address of the stored data objects, coupled to the input device, for directing the data object to a location in a storage object, coupled to the reference container with the reference container taught as part of the system manager, element 45 (e.g., see Figure 2);

the reference container comprising:

a publishing point, is the part of the reference container which stores the reference objects, with the publishing point being a list or record, which contains a virtual mapping system that directs the data object to an entry in the storage object as the configure table which includes information for logical files and volumes in a virtual mapping environment (e.g., see col. 7, lines 24-48).

As to claim 2, Bachmat teaches the storage object is comprised of a plurality of data containers as the storage object is part of as a plurality of disk storage devices, elements 14, 15 and 16 (e.g., see Figure 1).

As to claim 3, Bachmat teaches the storage object is comprised of one data container (e.g., see Figure 1).

As to claim 4, Bachmat teaches the virtual mapping system comprises a reference object which is assigned to the data object and indicates the address in the plurality of data containers where the data object is located as the disk storage devices having logical volumes (e.g., see col. 3, lines 30-60).

As to claim 5, Bachmat teaches each data container in the plurality of data containers comprises:

a transfer space to temporarily store data objects being relocated as the transfer control module, element 50, of the system manager, element 45 (e.g., see Figure 2);

a data space, coupled to the transfer space, to store the data object as the cache volumes used to store data from the various modules (e.g., see col. 5, lines 52-67); and,

an available space, coupled to the data space, containing unused space as the available disk cache module, element 52 of the system manager, element 45 (e.g., see Figure 2).

As claim 6, Bachmat teaches the publishing point comprises:

an import space for temporarily storing the data object as cache volumes (e.g., see col. 5, lines 52-67);

a reference space, coupled to the import space, for storing the reference objects with the reference objects being the addressing data stored in the system manager, element 45 (e.g., see Figure 3); and,

an available space, coupled to the reference space, containing unused storage in the publishing point as the available disk cache module space, element 52 (e.g., see Figure 3).

As to claim 7, Bachmat teaches the data object is selected from a group consisting of a byte, file and directory (e.g., see Figure 3, element 53).

As to claim 8, Bachmat teaches the reference object is a set of bits defining the location of the data object in the plurality of data containers as the addressing data stored in the system manager, element 45 (e.g., see Figure 3).

As to claim 9, Bachmat teaches each data container in the plurality of data containers obtains storage from a storage pool as the system manager maintaining data of memory availability of the system (e.g., see col. 5, lines 42-67).

As to claim 10, Bachmat teaches each data container in the plurality of data containers returns unused storage to the storage pool as the system manager maintaining data of memory availability of the system (e.g., see col. 5, lines 42-67).

As to claim 11, Bachmat teaches the size of the storage pool can be increased by adding more storage, and wherein power is not disrupted in the file system as the system manager being

able to dynamically assign logical file or volume identification which include recovering cache space (e.g., see col. 5, lines 42-67).

As to claim 12, Bachmat teaches an operator sets a maximum size to each data container in the plurality of data containers as the operator establishing the hardware parameters of the system (e.g., see Figure 1).

As to claim 13, Bachmat teaches the operator set a relocation threshold on each data container in the plurality of data containers, which indicates when the data object is to be relocated from a first data container in the plurality of data containers to a second data container in the plurality of data containers as the operator establishing the hardware parameters of the system (e.g., see Figure 1).

As to claim 14, Bachmat teaches the relocation threshold is a percentage of the maximum allowable size of each data container in the plurality of data containers as the operator establishing the hardware parameters of the system (e.g., see Figure 1) which includes a module for system statistics (e.g., see Figure 3, element 47).

As to claim 15, Bachmat teaches a new data container is created if there is no storage space available in the plurality of data containers as being inherent in a system which uses logical cache files and volumes (e.g., see col. 5, lines 42-67).

As to claim 16, Bachmat teaches the data object from the first data container to be relocated is placed in the transfer space of the second data container as using the file format modules for changing a file format to a more appropriate file format for storage (e.g., see col. 6, lines 1-24).

As to claim 17, Bachmat teaches the data object is relocated from the first data container to the second data container without the knowledge of an application running on the system as the system manager performing the file formatting (e.g., see col. 5, lines 42-67).

As to claim 18, Bachmat teaches each data container in the plurality of data containers is coupled to a container monitor to monitor that each data container in the plurality of data containers has adequate available space as the available disk cache module, element 52, and available file format module, element 53, (e.g., see Figure 3).

As to claim 19, Bachmat teaches a mode manage as a file format module, (e.g., see Figure 3, element 53), coupled to the publishing point, (e.g., see Figure 3, element 54), maintains all internal data structures tracking the publishing point, the plurality of data containers and the data object as maintaining the file, format, size and location of the data object (e.g., see Figure 3).

As to claim 20, Bachmat teaches a relocater is spawned by the mode manage to assist with the relocation of the data object as the event monitor module, element 51, working with the transfer control module, element 50, (e.g., see Figure 3 and col. 7, lines 24-38).

6. Bachmat teaches the invention (claim 21) as claimed including a method of dynamically allocating a data object in a file system, the method comprising the steps of:

detecting the data object in a data space of a source data container to be relocated as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10);

copying the data object to the transfer space of a target container as part of the actual transfer of the file (e.g., see col. 8, lines 1-10); and,

transferring the data object from the transfer space of the target data container to the data space of the target data container as part of the actual transfer of the file (e.g., see col. 8, lines 1-10).

As to claim 22, Bachmat teaches updating the reference object to indicate the address of the data object in the target data container as being inherent in order to maintain the correct address of the data object, and,

storing the reference object in the publishing point, with the publishing point being part of the reference container with store the reference or address objects (e.g., see Figure 2, element 54).

As to claim 23, Bachmat teaches the reference object is stored in a reference space within the publishing point (e.g., see Figure 2, element 54).

As to claim 24, Bachmat teaches spawning a relocater to manage the transfer of the data object from the source data container to the target data container as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10).

As to claim 25, Bachmat teaches the relocater updates the reference objects as being inherent in order to maintain the correct address of the data object.

As to claim 26, Bachmat teaches verifying the copy of the data object in the source data container is identical to the data object in the target data container as updating the available disk space module and available file format module with the identifications being dynamic (e.g., see col. 5, lines 52-67);



moving the data object in the data space in the source data container to the transfer space in the source data container as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10); and,

removing the data object from the transfer space of the source data container to increase available space in the source data container for additional data objects as updating the available disk space module and available file format module with the identifications being dynamic (e.g., see col. 5, lines 52-67).

As to claim 27, Bachmat teaches the relocater moves the data object in the source data container to the transfer space and then removes the data object from the source data container as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10).

As to claim 28, Bachmat teaches a mode manager cycles through the source data container and the target data container to test for a relocater threshold as establishing hardware parameters of the system (e.g., see Figure 1).

As to claim 29, Bachmat teaches an operator sets a time interval to test the relocater threshold as establishing hardware parameters of the system (e.g., see Figure 1).

As to claim 30, Bachmat teaches building a list of data objects from the source data container to relocater to the target data container, wherein data objects are put onto the list if the source data container has reached its relocation threshold as establishing hardware parameters of the system (e.g., see Figure 1).

As to claim 31, Bachmat teaches the data object that is relocated is of sufficient size to cause the source data container to drop below its relocation threshold the statistics module,

element 47, working in conjunction with the transfer control module, element 50, and the available disk space module, element 52 (e.g., see Figure 2).

As to claim 32, Bachmat teaches increasing the size of the source data container by obtaining additional space from a storage pool as the system manager being able to dynamically assign logical file and volume identification which include recovering cache space (e.g., see col. 5, lines 42-67).

As to claim 33, Bachmat teaches the mode manager determines where to relocate the data object and spawns the relocater to assist in the relocation as the reformat module, element 108, transferring a selected file (e.g., see col. 8, lines 1-10).

As to claim 34, Bachmat teaches the mode manager polls the import space of the publishing point for the data object to be relocated and wherein the operator sets a time interval for polling the import space as the statistics module, element 47, working with the transfer control module, element 50 as well as the other modules (e.g., see Figure 3).

As to claim 35, Bachmat teaches the data object is relocated to multiple data containers if the size of the data object is too large to fit into a single data container as the statistics module, element 47, working with the transfer control module, element 50 as well as the other modules (e.g., see Figure 3).

7. Bachmat teaches the invention (claim 36) as claimed including a method of dynamically allocating a data object in a file system, the method comprising the steps of:

entering the data object, as being either a byte, file or directory, into an input device, which is taught as either the host, element 11, controller, element 13 or system configuration manager, element 23 (e.g., see Figure 1);

storing the data object in a publishing point, which is part of the reference container which stores the reference objects or addressing data (e.g., see col. 7, lines 24-48);

assigning a reference object to the data object (e.g., see col. 7, lines 24-48 and Figure 3);  
and,

relocating the data object to a transfer space of a data container chosen from a plurality of data containers as using the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10).

As to claim 37, Bachmat teaches the data object is stored in an import space of the publishing point and wherein additional storage space is acquired from an available space of the publishing point if there is not enough space in the import space (e.g., see col. 5, lines 52-67).

As to claim 38, Bachmat teaches the reference object indicates the address in the data container where the data object is stored as the system manager, element 45 (e.g., see Figure 3).

As to claim 39, Bachmat teaches the reference object is transferred from the import space of the publishing point to the reference space of the publishing point (e.g., see col. 5, lines 52-67).

As to claim 40, Bachmat teaches spawning a relocater to assist in the storing of the data object as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10).

As to claim 41, Bachmat teaches the mode manager spawns a relocater to assist in relocating the data object from the import space of the publishing point to the transfer space of the data container as selecting the reformat module to transfer the selected file (e.g., see col. 8, lines 1-10).

As to claim 42, Bachmat teaches the mode manager spawns a container for each container in the plurality of data containers (e.g., see Figure 1).

As to claim 43, Bachmat teaches the mode manager cycles through each contain in the plurality of data containers to test for the relocation threshold containers as establishing the hardware parameters of the system (e.g., see Figure 1).

As to claim 44, Bachmat teaches an operator sets a time interval to test the relocation threshold as establishing the hardware parameters of the system (e.g., see Figure 1).

As to claim 45, Bachmat teaches moving the data object from the transfer space of the data container to the data space of the data container (e.g., see Figure 3); and,

updating the reference object with the address of the data object in the data container as maintaining the correct addressing for the data object (e.g., see Figure 3, element 54).

As to claim 46, Bachmat teaches the data object is relocated to multiple data containers if the size of the data object is too large to fit into a single container as using the statistics module, element 47 in conjunction with the other modules to relocate a data object (e.g., see Figure 3).

As to claim 47, Bachmat teaches the mode manager polls the import space of the publishing point for the data object to be relocated and wherein the operator sets a time for polling the import space as the event monitor module, element 51 of Figure 3, working with the transfer control module, element 50 of Figure 3 (e.g., see col. 7, lines 24-38).

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2187

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reba I. Elmore, whose telephone number is (571) 272-4192. The examiner can normally be reached on M-TH from 7:30am to 6:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the art unit supervisor for AU 2187, Donald Sparks, can be reached for general questions concerning this application at (571) 272-4201. Additionally, the official fax phone number for the art unit is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center central telephone number is (571) 272-2100.



Reba I. Elmore  
Primary Patent Examiner  
Art Unit 2187